

TO: Mail Stop 8 Director of the U.S. Patent & Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
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In Compliance with 35 § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been
 filed in the U.S. District Court Northern District of California on the following ☒ Patents or ☐ Trademarks:

DOCKET NO. CV 10-05446 EMC	DATE FILED 12/1/10	U.S. DISTRICT COURT 450 Golden Gate Avenue, P.O. Box 36060, San Francisco, CA 94102
PLAINTIFF RAMBUS INC		DEFENDANT LSI CORPORATION
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 see Complaint		
2 <i>19 Rel.</i>		
3		
4		
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In the above—entitled case, the following patent(s) have been included:

DATE INCLUDED	INCLUDED BY <input type="checkbox"/> Amendment <input type="checkbox"/> Answer <input type="checkbox"/> Cross Bill <input type="checkbox"/> Other Pleading		
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK	
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK Richard W. Wicking	(BY) DEPUTY CLERK Sheila Rash	DATE December 1, 2010
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1 49. In November 2008, LSI informed Rambus that it would not pursue further license
2 negotiations. Rambus is informed and believes, and thereupon alleges, that, despite its refusal to
3 negotiate a license, LSI continues to knowingly infringe the Asserted Patents.

4 50. Rambus is informed and believes, and thereupon alleges, that LSI has sold or offered
5 to sell its Accused Products to third parties who incorporate the Accused Products into their own
6 products. Those third parties in turn have made, used, sold, offered for sale, and/or imported and/or
7 continue to make, use, sell, offer for sale, and/or import their own products in the United States.
8 These activities undertaken by the third parties constitute acts of direct infringement of the Asserted
9 Patents. The memory controllers and peripheral interfaces in LSI's Accused Products are known by
10 LSI to be especially made or especially adapted for use in infringement of the Asserted Patents and
11 are not staple articles or commodities of commerce suitable for substantial non-infringing use. LSI
12 has thereby contributed to and continues to contribute to the infringement of the Asserted Patents.

13 51. Rambus is informed and believes, and thereupon alleges, that, by its sales and/or
14 offers for sale of the Accused Products to third parties, LSI also has induced and continues to induce
15 acts by third parties that LSI knew or should have known would constitute direct infringement of the
16 Asserted Patents. LSI actively induces infringement of the Asserted Patents by designing the
17 Accused Products to be capable of infringement and by promoting and encouraging the use of its
18 products by the third parties in ways that infringe the Asserted Patents.

19 52. Rambus is entitled to recover from LSI the actual damages it sustained as a result of
20 LSI's wrongful acts alleged herein under 35 U.S.C. § 284 in an amount to be proven at trial, together
21 with interest and costs.

22 53. Rambus is informed and believes, and thereupon alleges, that LSI's infringement of
23 the Asserted Patents as set forth herein has been and is willful, deliberate and in disregard of
24 Rambus's patent rights, and Rambus is therefore entitled to increased damages up to three times the
25 amount of actual damages and attorneys' fees, pursuant to 35 U.S.C. §§ 284, 285.

26 54. LSI's infringement of the Asserted Patents will continue to damage Rambus, causing
27 irreparable harm for which there is no adequate remedy at law, unless it is enjoined by this Court.
28

V.

CLAIMS FOR RELIEF

COUNT I

**(Patent Infringement of U.S. Patent No. 6,034,918
Under 35 U.S.C. § 271, *et seq.*)**

55. Rambus incorporates by reference and realleges paragraphs 1 through 54 above as though fully restated herein.

56. Rambus is informed and believes, and thereupon alleges, that LSI: (1) has infringed claims of the '918 Patent, literally and/or under the doctrine of equivalents, by making, using, offering to sell, selling (directly or through intermediaries), and/or importing Accused Products consisting of or including SDR and/or DDR-type memory controllers, and mobile and/or low power versions thereof, in this district and elsewhere in the United States, and/or (2) has contributed to the literal infringement and/or infringement under the doctrine of equivalents of claims of the '918 Patent, and/or has actively induced others to infringe claims of the '918 Patent, literally and/or under the doctrine of equivalents, in this district and elsewhere in the United States.

COUNT II

**(Patent Infringement of U.S. Patent No. 6,038,195
Under 35 U.S.C. § 271, *et seq.*)**

57. Rambus incorporates by reference and realleges paragraphs 1 through 56 above as though fully restated herein.

58. Rambus is informed and believes, and thereupon alleges, that LSI: (1) has infringed claims of the '195 Patent, literally and/or under the doctrine of equivalents, by making, using, offering to sell, selling (directly or through intermediaries), and/or importing Accused Products consisting of or including SDR and/or DDR-type memory controllers, and mobile and/or low power versions thereof, in this district and elsewhere in the United States, and/or (2) has contributed to the literal infringement and/or infringement under the doctrine of equivalents of claims of the '195 Patent, and/or has actively induced others to infringe claims of the '195 Patent, literally and/or under the doctrine of equivalents, in this district and elsewhere in the United States.

1 **COUNT V**

2 **(Patent Infringement of U.S. Patent No. 6,426,916**
3 **Under 35 U.S.C. § 271, *et. seq.*)**

4 63. Rambus incorporates by reference and realleges paragraphs 1 through 62 above as
5 though fully restated herein.

6 64. Rambus is informed and believes, and thereupon alleges, that LSI: (1) has infringed
7 claims of the '916 Patent, literally and/or under the doctrine of equivalents, by making, using,
8 offering to sell, selling (directly or through intermediaries), and/or importing Accused Products
9 consisting of or including SDR and/or DDR-type memory controllers, and mobile and/or low power
10 versions thereof, in this district and elsewhere in the United States, and/or (2) has contributed to the
11 literal infringement and/or infringement under the doctrine of equivalents of claims of the '916
12 Patent, and/or has actively induced others to infringe claims of the '916 Patent, literally and/or under
13 the doctrine of equivalents, in this district and elsewhere in the United States.

14 **COUNT VI**

15 **(Patent Infringement of U.S. Patent No. 6,564,281**
16 **Under 35 U.S.C. § 271, *et. seq.*)**

17 65. Rambus incorporates by reference and realleges paragraphs 1 through 64 above as
18 though fully restated herein.

19 66. Rambus is informed and believes, and thereupon alleges, that LSI: (1) has infringed
20 claims of the '281 Patent, literally and/or under the doctrine of equivalents, by making, using,
21 offering to sell, selling (directly or through intermediaries), and/or importing Accused Products
22 consisting of or including SDR and/or DDR-type memory controllers, and mobile and/or low power
23 versions thereof, in this district and elsewhere in the United States, and/or (2) has contributed to the
24 literal infringement and/or infringement under the doctrine of equivalents of claims of the '281
25 Patent, and/or has actively induced others to infringe claims of the '281 Patent, literally and/or under
26 the doctrine of equivalents, in this district and elsewhere in the United States.
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COUNT VII

**(Patent Infringement of U.S. Patent No. 6,584,037
Under 35 U.S.C. § 271, *et. seq.*)**

67. Rambus incorporates by reference and realleges paragraphs 1 through 66 above as though fully restated herein.

68. Rambus is informed and believes, and thereupon alleges, that LSI: (1) has infringed claims of the '037 Patent, literally and/or under the doctrine of equivalents, by making, using, offering to sell, selling (directly or through intermediaries), and/or importing Accused Products consisting of or including DDR2 and/or DDR3 memory controllers, and mobile and/or low power versions thereof, in this district and elsewhere in the United States, and/or (2) has contributed to the literal infringement and/or infringement under the doctrine of equivalents of claims of the '037 Patent, and/or has actively induced others to infringe claims of the '037 Patent, literally and/or under the doctrine of equivalents, in this district and elsewhere in the United States.

COUNT VIII

**(Patent Infringement of U.S. Patent No. 6,715,020
Under 35 U.S.C. § 271, *et. seq.*)**

69. Rambus incorporates by reference and realleges paragraphs 1 through 68 above as though fully restated herein.

70. Rambus is informed and believes, and thereupon alleges, that LSI: (1) has infringed claims of the '020 Patent, literally and/or under the doctrine of equivalents, by making, using, offering to sell, selling (directly or through intermediaries), and/or importing Accused Products consisting of or including SDR, and/or DDR-type memory controllers, in this district and elsewhere in the United States, and/or (2) has contributed to the literal infringement and/or infringement under the doctrine of equivalents of claims of the '020 Patent, and/or has actively induced others to infringe claims of the '020 Patent, literally and/or under the doctrine of equivalents, in this district and elsewhere in the United States.

1 **COUNT IX**

2 **(Patent Infringement of U.S. Patent No. 6,751,696**
3 **Under 35 U.S.C. § 271, *et. seq.*)**

4 71. Rambus incorporates by reference and realleges paragraphs 1 through 70 above as
5 though fully restated herein.

6 72. Rambus is informed and believes, and thereupon alleges, that LSI: (1) has infringed
7 and continues to infringe claims of the '696 Patent, literally and/or under the doctrine of equivalents,
8 by making, using, offering to sell, selling (directly or through intermediaries), and/or importing
9 Accused Products consisting of or including DDR-type memory controllers, and mobile and/or low
10 power versions thereof, in this district and elsewhere in the United States, and/or (2) has contributed
11 and continues to contribute to the literal infringement and/or infringement under the doctrine of
12 equivalents of claims of the '696 Patent, and/or has actively induced and continues to actively induce
13 others to infringe claims of the '696 Patent, literally and/or under the doctrine of equivalents, in this
14 district and elsewhere in the United States.

15 **COUNT X**

16 **(Patent Infringement of U.S. Patent No. 7,209,997**
17 **Under 35 U.S.C. § 271, *et. seq.*)**

18 73. Rambus incorporates by reference and realleges paragraphs 1 through 72 above as
19 though fully restated herein.

20 74. Rambus is informed and believes, and thereupon alleges, that LSI: (1) has infringed
21 and continues to infringe claims of the '997 Patent, literally and/or under the doctrine of equivalents,
22 by making, using, offering to sell, selling (directly or through intermediaries), and/or importing
23 Accused Products consisting of or including SDR and/or DDR-type memory controllers, and mobile
24 and/or low power versions thereof, in this district and elsewhere in the United States; and/or (2) has
25 contributed and continues to contribute to the literal infringement and/or infringement under the
26 doctrine of equivalents of claims of the '997 Patent, and/or has actively induced and continues to
27 actively induce others to infringe claims of the '997 Patent, literally and/or under the doctrine of
28 equivalents, in this district and elsewhere in the United States.

1 **COUNT XI**

2 **(Patent Infringement of U.S. Patent No. 6,470,405**
3 **Under 35 U.S.C. § 271, *et. seq.*)**

4 75. Rambus incorporates by reference and realleges paragraphs 1 through 74 above as
5 though fully restated herein.

6 76. Rambus is informed and believes, and thereupon alleges, that LSI: (1) has infringed
7 and continues to infringe claims of the '405 Patent, literally and/or under the doctrine of equivalents,
8 by making, using, offering to sell, selling (directly or through intermediaries), and/or importing
9 Accused Products consisting of or including DDR-type memory controllers, and mobile and/or low
10 power versions thereof, in this district and elsewhere in the United States, and/or (2) has contributed
11 and continues to contribute to the literal infringement and/or infringement under the doctrine of
12 equivalents of claims of the '405 Patent, and/or has actively induced and continues to actively induce
13 others to infringe claims of the '405 Patent, literally and/or under the doctrine of equivalents, in this
14 district and elsewhere in the United States.

15 **COUNT XII**

16 **(Patent Infringement of U.S. Patent No. 6,591,353**
17 **Under 35 U.S.C. § 271, *et. seq.*)**

18 77. Rambus incorporates by reference and realleges paragraphs 1 through 76 above as
19 though fully restated herein.

20 78. Rambus is informed and believes, and thereupon alleges, that LSI: (1) has infringed
21 and continues to infringe claims of the '353 Patent, literally and/or under the doctrine of equivalents,
22 by making, using, offering to sell, selling (directly or through intermediaries), and/or importing
23 Accused Products consisting of or including DDR-type memory controllers, and mobile and/or low
24 power versions thereof, in this district and elsewhere in the United States, and/or (2) has contributed
25 and continues to contribute to the literal infringement and/or infringement under the doctrine of
26 equivalents of claims of the '353 Patent, and/or has actively induced and continues to actively induce
27 others to infringe claims of the '353 Patent, literally and/or under the doctrine of equivalents, in this
28 district and elsewhere in the United States.

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COUNT XIII

**(Patent Infringement of U.S. Patent No. 7,287,109
Under 35 U.S.C. § 271, *et. seq.*)**

79. Rambus incorporates by reference and realleges paragraphs 1 through 78 above as though fully restated herein.

80. Rambus is informed and believes, and thereupon alleges, that LSI: (1) has infringed and continues to infringe claims of the '109 Patent, literally and/or under the doctrine of equivalents, by making, using, offering to sell, selling (directly or through intermediaries), and/or importing Accused Products consisting of or including DDR-type memory controllers, and mobile and/or low power versions thereof, in this district and elsewhere in the United States, and/or (2) has contributed and continues to contribute to the literal infringement and/or infringement under the doctrine of equivalents of claims of the '109 Patent, and/or has actively induced and continues to actively induce others to infringe claims of the '109 Patent, literally and/or under the doctrine of equivalents, in this district and elsewhere in the United States.

COUNT XIV

**(Patent Infringement of U.S. Patent No. 6,542,555
Under 35 U.S.C. § 271, *et. seq.*)**

81. Rambus incorporates by reference and realleges paragraphs 1 through 80 above as though fully restated herein.

82. Rambus is informed and believes, and thereupon alleges, that LSI: (1) has infringed and continues to infringe claims of the '555 Patent, literally and/or under the doctrine of equivalents, by making, using, offering to sell, selling (directly or through intermediaries), and/or importing Accused Products consisting of or including PCI Express peripheral interfaces and certain SATA and SAS peripheral interfaces, in this district and elsewhere in the United States, and/or (2) has contributed and continues to contribute to the literal infringement and/or infringement under the doctrine of equivalents of claims of the '555 Patent, and/or has actively induced and continues to actively induce others to infringe claims of the '555 Patent, literally and/or under the doctrine of equivalents, in this district and elsewhere in the United States.

COUNT XV

**(Patent Infringement of U.S. Patent No. 7,099,404
Under 35 U.S.C. § 271, *et. seq.*)**

83. Rambus incorporates by reference and realleges paragraphs 1 through 82 above as though fully restated herein.

84. Rambus is informed and believes, and thereupon alleges, that LSI: (1) has infringed and continues to infringe claims of the '404 Patent, literally and/or under the doctrine of equivalents, by making, using, offering to sell, selling (directly or through intermediaries), and/or importing Accused Products consisting of or including PCI Express peripheral interfaces and certain SATA and SAS peripheral interfaces, in this district and elsewhere in the United States, and/or (2) has contributed and continues to contribute to the literal infringement and/or infringement under the doctrine of equivalents of claims of the '404 Patent, and/or has actively induced and continues to actively induce others to infringe claims of the '404 Patent, literally and/or under the doctrine of equivalents, in this district and elsewhere in the United States.

COUNT XVI

**(Patent Infringement of U.S. Patent No. 7,580,474
Under 35 U.S.C. § 271, *et. seq.*)**

85. Rambus incorporates by reference and realleges paragraphs 1 through 84 above as though fully restated herein.

86. Rambus is informed and believes, and thereupon alleges, that LSI: (1) has infringed and continues to infringe claims of the '474 Patent, literally and/or under the doctrine of equivalents, by making, using, offering to sell, selling (directly or through intermediaries), and/or importing Accused Products consisting of or including PCI Express peripheral interfaces and certain SATA and SAS peripheral interfaces, in this district and elsewhere in the United States, and/or (2) has contributed and continues to contribute to the literal infringement and/or infringement under the doctrine of equivalents of claims of the '474 Patent, and/or has actively induced and continues to actively induce others to infringe claims of the '474 Patent, literally and/or under the doctrine of equivalents, in this district and elsewhere in the United States.

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COUNT XVII

**(Patent Infringement of U.S. Patent No. 7,602,857
Under 35 U.S.C. § 271, *et. seq.*)**

87. Rambus incorporates by reference and realleges paragraphs 1 through 86 above as though fully restated herein.

88. Rambus is informed and believes, and thereupon alleges, that LSI: (1) has infringed and continues to infringe claims of the '857 Patent, literally and/or under the doctrine of equivalents, by making, using, offering to sell, selling (directly or through intermediaries), and/or importing Accused Products consisting of or including PCI Express peripheral interfaces and certain SATA and SAS peripheral interfaces, in this district and elsewhere in the United States, and/or (2) has contributed and continues to contribute to the literal infringement and/or infringement under the doctrine of equivalents of claims of the '857 Patent, and/or has actively induced and continues to actively induce others to infringe claims of the '857 Patent, literally and/or under the doctrine of equivalents, in this district and elsewhere in the United States.

COUNT XVIII

**(Patent Infringement of U.S. Patent No. 7,602,858
Under 35 U.S.C. § 271, *et. seq.*)**

89. Rambus incorporates by reference and realleges paragraphs 1 through 88 above as though fully restated herein.

90. Rambus is informed and believes, and thereupon alleges, that LSI: (1) has infringed and continues to infringe claims of the '858 Patent, literally and/or under the doctrine of equivalents, by making, using, offering to sell, selling (directly or through intermediaries), and/or importing Accused Products consisting of or including PCI Express peripheral interfaces and certain SATA and SAS peripheral interfaces, in this district and elsewhere in the United States, and/or (2) has contributed and continues to contribute to the literal infringement and/or infringement under the doctrine of equivalents of claims of the '858 Patent, and/or has actively induced and continues to actively induce others to infringe claims of the '858 Patent, literally and/or under the doctrine of equivalents, in this district and elsewhere in the United States.

1 **COUNT XIX**

2 **(Patent Infringement of U.S. Patent No. 7,715,494**
3 **Under 35 U.S.C. § 271, *et. seq.*)**

4 91. Rambus incorporates by reference and realleges paragraphs 1 through 90 above as
5 though fully restated herein.

6 92. Rambus is informed and believes, and thereupon alleges, that LSI: (1) has infringed
7 and continues to infringe claims of the '494 Patent, literally and/or under the doctrine of equivalents,
8 by making, using, offering to sell, selling (directly or through intermediaries), and/or importing
9 Accused Products consisting of or including PCI Express peripheral interfaces and certain SATA
10 and SAS peripheral interfaces, in this district and elsewhere in the United States, and/or (2) has
11 contributed and continues to contribute to the literal infringement and/or infringement under the
12 doctrine of equivalents of claims of the '494 Patent, and/or has actively induced and continues to
13 actively induce others to infringe claims of the '494 Patent, literally and/or under the doctrine of
14 equivalents, in this district and elsewhere in the United States.

15 **VI.**

16 **PRAYER FOR RELIEF**

17 WHEREFORE, Plaintiff Rambus asks this Court to enter judgment in its favor against LSI
18 and grant the following relief:

19 A. An adjudication that LSI has infringed and continues to infringe the Asserted
20 Patents as alleged above;

21 B. An accounting of all damages sustained by Rambus as a result of LSI's acts of
22 infringement of the Asserted Patents;

23 C. An award to Rambus of actual damages adequate to compensate Rambus for
24 LSI's acts of patent infringement, together with prejudgment and postjudgment interest;

25 D. An award to Rambus of enhanced damages, up to and including trebling of
26 Rambus's damages pursuant to 35 U.S.C. § 284 for LSI's willful infringement of the Asserted
27 Patents;
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Attorneys for Plaintiff
RAMBUS INC.

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

RAMBUS INC.,

Plaintiff,

v.

LSI CORPORATION,

Defendant.

CASE NO. **10 5446**
COMPLAINT FOR PATENT
INFRINGEMENT
DEMAND FOR JURY TRIAL

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2010 DEC -1 P 3:55
RICHARD W. HENNING
CLERK OF DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

E-filing

EMC

1 E. An award of Rambus's costs of suit and reasonable attorneys' fees pursuant to 35
2 U.S.C. § 285 due to the exceptional nature of this case, or as otherwise permitted by law;

3 F. A grant of a permanent injunction pursuant to 35 U.S.C. § 283, enjoining LSI, and
4 each of its agents, servants, employees, principals, officers, attorneys, successors, assignees, and all
5 those in active concert or participation with LSI, including related individuals and entities,
6 customers, representatives, OEMs, dealers, and distributors from further acts of (1) infringement, (2)
7 contributory infringement, and (3) active inducement to infringe with respect to the claims of the
8 Asserted Patents;

9 G. Any further relief that this Court deems just and proper.

10 **VII.**

11 **JURY DEMAND**

12 Plaintiff Rambus requests a jury trial on all issues triable to a jury in this matter.

13
14 Respectfully Submitted,

15 DATED: December 1, 2010

MUNGER, TOLLES & OLSON LLP

16
17 By: 
18 PETER A. DETRE

19 Attorneys for Plaintiff
20 RAMBUS INC.

1 Plaintiff Rambus Inc. ("Rambus") states the following as its Complaint against Defendant
2 LSI Corporation ("LSI"):

3 I.

4 **THE PARTIES**

5 1. Plaintiff Rambus is a Delaware corporation with its principal place of business at
6 1050 Enterprise Way, Sunnyvale, California 94089.

7 2. Rambus is informed and believes, and thereupon alleges, that defendant LSI is a
8 California corporation with its principal place of business at 1621 Barber Lane, Milpitas, California
9 95035. Upon information and belief, LSI has substantial contacts and transacts substantial business,
10 either directly or through its agent, on an ongoing basis in this judicial district and elsewhere in the
11 United States.

12 3. Unless specifically stated otherwise, the acts complained of herein were committed
13 by, on behalf of, and/or for the benefit of LSI.

14 II.

15 **NATURE OF THE ACTION**

16 4. This is an action for patent infringement.

17 5. Rambus is informed and believes, and thereupon alleges, that LSI has been and/or is
18 infringing, contributing to the infringement of, and/or actively inducing others to infringe claims of
19 U.S. Patent No. 6,034,918 (the "'918 Patent"), U.S. Patent No. 6,038,195 (the "'195 Patent"), U.S.
20 Patent No. 6,260,097 (the "'097 Patent"), U.S. Patent No. 6,304,937 (the "'937 Patent"), U.S. Patent
21 No. 6,426,916 (the "'916 Patent"), U.S. Patent No. 6,470,405 (the "'405 Patent"), U.S. Patent No.
22 6,542,555 (the "'555 Patent"), U.S. Patent No. 6,564,281 (the "'281 Patent"), U.S. Patent No.
23 6,584,037 (the "'037 Patent"), U.S. Patent No. 6,591,353 (the "'353 Patent"), U.S. Patent No.
24 6,715,020 (the "'020 Patent"), U.S. Patent No. 6,751,696 (the "'696 Patent"), U.S. Patent No.
25 7,099,404 (the "'404 Patent"), U.S. Patent No. 7,209,997 (the "'997 Patent"), and U.S. Patent No.
26 7,287,109 (the "'109 Patent"), U.S. Patent No. 7,580,474 (the "'474 Patent"), U.S. Patent No.
27 7,602,857 (the "'857 Patent"), U.S. Patent No. 7,602,858 (the "'858 Patent"), and U.S. Patent No.
28 7,715,494 (the "'494 Patent") (collectively the "Asserted Patents").

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III.

JURISDICTION AND VENUE

6. This action arises under the patent laws of the United States, 35 U.S.C. § 1 *et seq.*, including 35 U.S.C. § 271. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).

7. This Court has personal jurisdiction over LSI because LSI has substantial contacts and conducts business in the State of California and in this judicial district, and has been infringing, contributing to the infringement of and/or actively inducing others to infringe claims of the Asserted Patents in California and elsewhere.

8. Venue is proper in this Court pursuant to 28 U.S.C. §§ 1391(b), 1391(c), 1391(d) and/or 1400(b) because a substantial part of the events giving rise to Rambus's claims occurred in the Northern District of California and because LSI is subject to personal jurisdiction in the Northern District of California.

IV.

FACTUAL BACKGROUND

A. **Rambus**

9. Rambus is one of the world's leading designers of semiconductor interface technologies that are used in a broad range of consumer, computing, and communications applications. In addition to the development of high-speed interfaces, Rambus's breakthrough technology and unparalleled engineering expertise have solved the most challenging interface problems and have brought industry-leading products to market. Rambus's interface solutions have enabled state-of-the-art performance in many products, such as personal computers, workstations, servers, gaming consoles, televisions, Blu-ray players, set-top boxes, printers, video projectors, network switches, modems, routers, mobile phones, and graphics cards.

10. In the late 1980s, Michael Farmwald and Mark Horowitz, the founders of Rambus, recognized and set out to solve the "memory bottleneck problem," the failure of memory interfaces to keep pace with the exponential growth in microprocessor speed. Farmwald and Horowitz's inventions enabled a dynamic random access memory (DRAM) memory architecture that achieved

1 data transmission rates of 500 megahertz, at a time when other DRAM chips were running in the
2 range of 20-30 megahertz.

3 11. Since its founding in 1990, Rambus has continued to design, develop, market, and
4 license its high speed interface technology. Rambus's inventions include new memory devices, new
5 controllers for controlling such memory devices, and new systems incorporating those memory
6 devices and memory controllers. Rambus's inventions also include new transmitters and receivers
7 and interface technology.

8 12. Rambus has made large-scale investments in the exploitation of its technology and a
9 large number of companies have paid for licenses to its patents. Rambus has granted licenses of
10 varying scope to its technology to many of the world's largest semiconductor manufacturers.

11 13. Since 1990, Rambus has spent millions of dollars on research and development of its
12 valuable technology. Rambus relies on the United States patent system to protect the technology
13 resulting from its research and development. Rambus's continued success depends on its research
14 and development of memory interface and other solutions, as well as the protection of intellectual
15 property in its innovative technology.

16 **B. Asserted Patents**

17 14. On April 18, 1990, U.S. Patent Application No. 07/510,898 was filed naming Michael
18 Farmwald and Mark Horowitz as inventors. The Asserted Patents claiming priority to this
19 application are referred to herein as the "Farmwald/Horowitz Patents."

20 15. On October 19, 1995, U.S. Patent Application No. 08/545,292 was filed naming
21 Richard M. Barth and other individuals as inventors. The Asserted Patents claiming priority to this
22 application are referred to herein as the "Barth Patents."

23 16. On June 20, 1997, U.S. Provisional Patent Application No. 60/050,098 was filed, on
24 June 23, 1997, U.S. Patent Application No. 08/880,980 was filed, and on June 25, 1997, U.S. Patent
25 Application No. 08/882,252 was filed, each naming William J. Dally as inventor. The Asserted
26 Patents claiming priority to these applications are referred to herein as the "Dally Patents."

1 **1. Farmwald/Horowitz Patents**

2 17. On March 7, 2000, U.S. Patent No. 6,034,918, titled "Method of Operating a Memory
3 Having a Variable Data Output Length and a Programmable Register," was duly and legally issued
4 to Rambus, as assignee of named inventors Michael Farmwald and Mark Horowitz.

5 18. On March 14, 2000, U.S. Patent No. 6,038,195, titled "Synchronous Memory Device
6 Having a Delay Time Register and Method of Operating Same," was duly and legally issued to
7 Rambus, as assignee of named inventors Michael Farmwald and Mark Horowitz.

8 19. On July 10, 2001, U.S. Patent No. 6,260,097, titled "Method and Apparatus for
9 Controlling a Synchronous Memory Device," was duly and legally issued to Rambus, as assignee of
10 named inventors Michael Farmwald and Mark Horowitz.

11 20. On October 16, 2001, U.S. Patent No. 6,304,937, titled "Method of Operation of a
12 Memory Controller," was duly and legally issued to Rambus, as assignee of named inventors
13 Michael Farmwald and Mark Horowitz.

14 21. On July 30, 2002, U.S. Patent No. 6,426,916, titled "Memory Device Having a
15 Variable Data Output Length and a Programmable Register," was duly and legally issued to
16 Rambus, as assignee of named inventors Michael Farmwald and Mark Horowitz.

17 22. On May 13, 2003, U.S. Patent No. 6,564,281, titled "Synchronous Memory Device
18 Having Automatic Precharge," was duly and legally issued to Rambus, as assignee of named
19 inventors Michael Farmwald and Mark Horowitz.

20 23. On June 24, 2003, U.S. Patent No. 6,584,037, titled "Memory Device Which Samples
21 Data After an Amount of Time Expires," was duly and legally issued to Rambus, as assignee of
22 named inventors Michael Farmwald and Mark Horowitz.

23 24. On March 30, 2004, U.S. Patent No. 6,715,020, titled "Synchronous Integrated
24 Circuit Device," was duly and legally issued to Rambus, as assignee of named inventors Michael
25 Farmwald and Mark Horowitz.

26 25. On June 15, 2004, U.S. Patent No. 6,751,696, titled "Memory Device Having a
27 Programmable Register," was duly and legally issued to Rambus, as assignee of named inventors
28 Michael Farmwald and Mark Horowitz.

1 26. On April 24, 2007, U.S. Patent No. 7,209,997, titled "Controller Device and Method
2 for Operating Same," was duly and legally issued to Rambus, as assignee of named inventors
3 Michael Farmwald and Mark Horowitz.

4 27. The Farmwald/Horowitz Patents include claims directed to improving the
5 performance of memory controllers.

6 28. At all relevant times, Rambus has been the owner of the entire right, title, and interest
7 in each of the Farmwald/Horowitz Patents.

8 **2. Barth Patents**

9 29. On October 22, 2002, U.S. Patent No. 6,470,405, titled "Protocol for Communication
10 with Dynamic Memory," was duly and legally issued to Rambus, as assignee of Richard M. Barth
11 and the other inventors named therein.

12 30. On July 8, 2003, U.S. Patent No. 6,591,353, titled "Protocol for Communication with
13 Dynamic Memory," was duly and legally issued to Rambus, as assignee of Richard M. Barth and the
14 other inventors named therein.

15 31. On October 23, 2007, U.S. Patent No. 7,287,109, titled "Method of Controlling a
16 Memory Device Having a Memory Core," was duly and legally issued to Rambus, as assignee of
17 Richard M. Barth and the other inventors named therein.

18 32. The Barth Patents include claims directed to improving the performance of memory
19 controllers.

20 33. At all relevant times, Rambus has been the owner of the entire right, title, and interest
21 in each of the Barth Patents.

22 **3. Dally Patents**

23 34. On April 1, 2003, U.S. Patent No. 6,542,555, titled "Digital Transmitter With
24 Equalization," was duly and legally issued to the Massachusetts Institute of Technology ("MIT"), as
25 assignee of named inventor William J. Dally.

26 35. On August 29, 2006, U.S. Patent No. 7,099,404, titled "Digital Transmitter," was
27 duly and legally issued to MIT, as assignee of named inventor William J. Dally.
28

1 36. On August 25, 2009, U.S. Patent No. 7,580,474, titled "Digital Transmitter," was
2 duly and legally issued to MIT, as assignee of named inventor William J. Dally.

3 37. On October 13, 2009, U.S. Patent No. 7,602,857, titled "Digital Transmitter," was
4 duly and legally issued to MIT, as assignee of named inventor William J. Dally.

5 38. On October 13, 2009, U.S. Patent No. 7,602,858, titled "Digital Transmitter," was
6 duly and legally issued to MIT, as assignee of named inventor William J. Dally.

7 39. On May 11, 2010, U.S. Patent No. 7,715,494, titled "Digital Transmitter," was duly
8 and legally issued to MIT, as assignee of named inventor William J. Dally.

9 40. The Dally Patents include claims directed to improving the performance of digital
10 communications.

11 41. At all relevant times, the Dally Patents have been owned by MIT. MIT has
12 exclusively licensed the Dally Patents to Rambus, subject only to any rights retained by the United
13 States federal government pursuant to 35 U.S.C. §§ 201-211, with the right to sublicense, and the
14 right to prosecute any past, present, or future infringement of the Dally Patents.

15 **C. LSI's Acts of Infringement**

16 42. Rambus is informed and believes, and thereupon alleges, that LSI has made, used,
17 sold, imported and/or offered for sale, and/or continued to make, use, sell, import and/or offer for
18 sale, products in the United States consisting of or including DRAM memory controllers, including
19 SDR (Single Data Rate) memory controllers, DDR-type memory controllers (including DDR or
20 Double Data Rate memory controllers, DDR2 or Double Data Rate 2 memory controllers, and
21 DDR3 or Double Data Rate 3 memory controllers), and mobile and/or low power versions of the
22 aforementioned memory controllers.

23 43. Rambus is informed and believes, and thereupon alleges, that LSI has made, used,
24 sold, imported and/or offered for sale, and/or continued to make, use, sell, import and/or offer for
25 sale, products in the United States consisting of or including high-speed SerDes interfaces, including
26 PCI Express peripheral interfaces and certain SATA and SAS peripheral interfaces.

27 44. The aforementioned LSI products are hereinafter referred to collectively as the
28 "Accused Products." The Accused Products include at least products that are part of, for example,

1 LSI's storage (e.g., MegaRAID, LSISAS RAID-on-Chip, and TrueStore) and networking (e.g., APP,
2 and Tarari) product lines.

3 45. LSI's making, use, sale, offers for sale, and/or importation of the Accused Products in
4 the United States constitute acts of direct infringement of the Asserted Patents.

5 46. In December 2005, Rambus met with LSI to discuss the companies' business
6 strategies (including reviewing Rambus's technology and patent licensing business model) and
7 possible future engagements between Rambus and LSI. In January 2006, Rambus contacted LSI to
8 schedule meetings to discuss potential technology engagements and a potential license to Rambus
9 patents. Rambus followed up with LSI by telephone and email in February 2006 regarding its
10 unlicensed use of Rambus's inventions. Rambus informed LSI that it could find an overview of
11 Rambus patents and innovations on Rambus's website, and that it would like to meet to discuss
12 LSI's need for a patent license for use of technologies such as those LSI used in its products
13 containing memory interfaces. A further meeting was scheduled, and on or about April 21, 2006,
14 Rambus provided information to LSI regarding the infringement of the '195 Patent, the '097 Patent,
15 the '937 Patent, the '916 Patent, the '281 Patent, the '037 Patent, the '020 Patent, the '696 Patent,
16 and the '405 Patent by LSI products.

17 47. Rambus is informed and believes, and thereupon alleges, that LSI has known of
18 the '555 patent and other patents in the Dally patent family since at least early 2004.

19 48. Rambus is informed and believes, and thereupon alleges, that LSI's knowing
20 infringement has continued despite further information regarding infringement provided by Rambus
21 in the course of attempting to negotiate a license with LSI that would fairly compensate Rambus for
22 LSI's use of patents owned or exclusively licensed by Rambus. For example, on or about May 31,
23 2006, Rambus provided information to LSI regarding the infringement of the '195 Patent, the '097
24 Patent, the '937 Patent, the '916 Patent, the '281 Patent, the '037 Patent, the '020 Patent, the '696
25 Patent, and the '405 Patent by LSI products. On or about October 5, 2007, Rambus provided
26 information to LSI regarding the infringement of the '195 Patent, the '097 Patent, the '937 Patent,
27 the '916 Patent, the '281 Patent, the '020 Patent, the '696 Patent, the '997 Patent, and the '405
28 Patent by LSI products.